

## **Chapter 1**

### **INTRODUCTION**

#### **BACKGROUND**

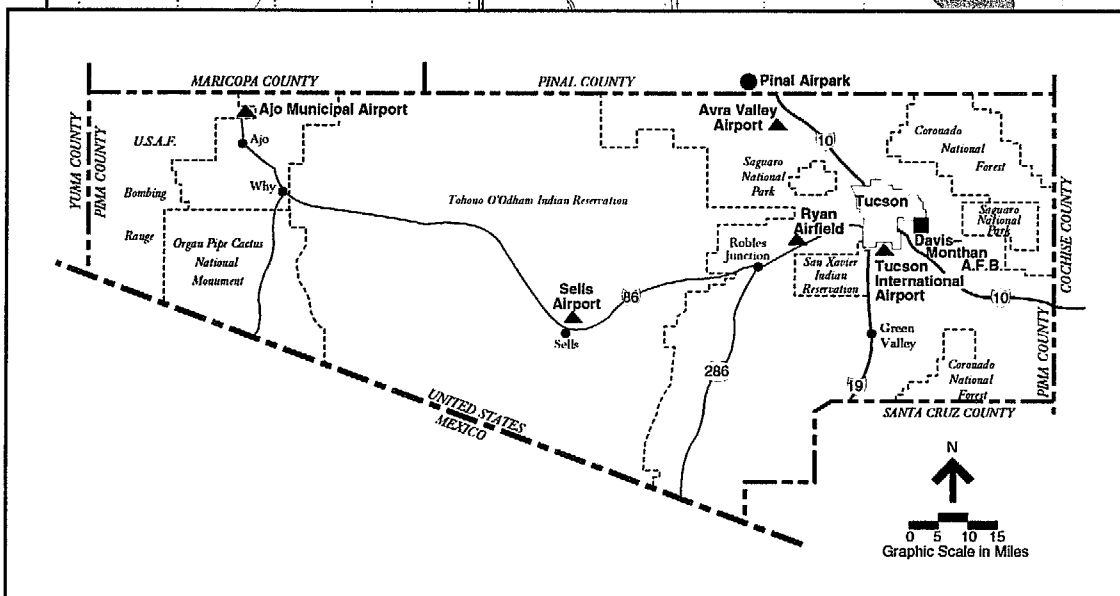
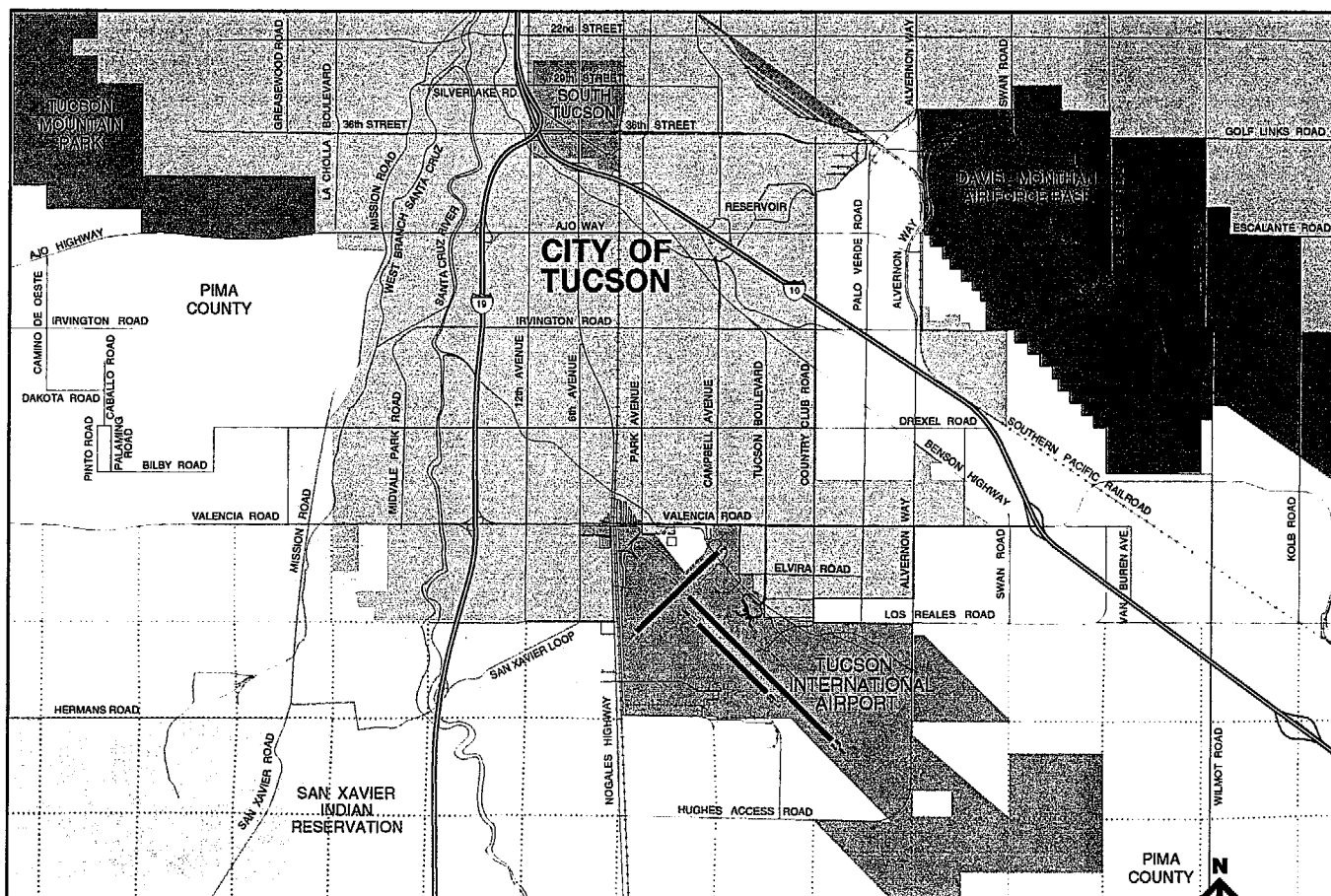
Tucson International Airport is owned by the City of Tucson and operated by the Tucson Airport Authority. As shown on Exhibit 1-1, the Airport is at the southern edge of the City, about 8 miles southeast of downtown. Primary access to the Airport is via Valencia Road and South Tucson Boulevard.

The previous Master Plan for the Airport was prepared in 1987 for the planning period through 2005. Since 1987, the passenger terminal building has been expanded by approximately 50,000 square feet, roadway access to the terminal building has been upgraded, general aviation Runway 11R-29L has been improved, and about 1,860 acres of land have been acquired. All of these projects are consistent with the recommendations in the 1987 Master Plan.

The number of passengers enplaning (boarding an aircraft) at the Airport, after reaching a peak of 1,576,439 in 1987, decreased each year through 1991 to a total of 1,221,546. The number of enplaned passengers increased and reached a record high of 1,638,342 in 1994. This record was surpassed in 1995, when 1,720,537 passengers were enplaned at the Airport. Similarly, the amount of air cargo (freight and mail) enplaned at the Airport reached a record high of 30,523,567 pounds in 1995.

The decrease in the number of enplaned passengers at the Airport in the late 1980s and early 1990s was the result of economic and political conditions and lower airfares offered from Phoenix Sky Harbor International Airport. The effects of the national and local recessions and the Persian Gulf war caused air travel demand to decrease. In addition, airfares offered in many markets from Phoenix were often lower than fares offered from Tucson in those same markets. This difference resulted in some passengers driving or using shuttle services to Phoenix to take advantage of the lower airfares.

The recent fast growth in the number of passengers enplaning at the Airport is the result of (1) a strongly expanding economy in the Tucson region, and (2) the introduction of low-fare service in late 1993 by airlines such as Morris Air (acquired by Southwest Airlines in October 1994) and Reno Air, which has reduced the difference in airfares offered from Tucson and Phoenix. The increase in the amount of air cargo enplaned at the Airport is the result of an expanding economy and improved air cargo service. The passage and ongoing implementation of the North American Free Trade Agreement (NAFTA) have potentially contributed further to air cargo growth, although its effects cannot be quantified until more data are available.



Note: Davis-Monthan Air Force Base is within the Tucson city limits.

#### LEGEND

- ..... Section grid line
- National boundary
- County boundary
- Town/city
- ▲ Public-use airport in Pima County
- Public-use airport outside Pima County
- Military airfield—public use by prior permission

Exhibit 1-1  
**AIRPORT LOCATION**  
 Master Plan Update  
 Tucson International Airport  
 November 1996



LEIGH FISHER ASSOCIATES

In 1994, the Authority decided to revalidate the Airport Master Plan to (1) address the recent increases in passenger traffic and cargo volumes, (2) review the recommendations from the previous plan to ensure their continued applicability, and (3) determine the phasing and timing of the various recommended projects to accommodate demand. In January 1995, the Authority retained Leigh Fisher Associates to assist in preparing the Master Plan Update for Tucson International Airport. A Technical Advisory Committee (TAC), comprised of individuals representing Airport users, key local agencies, and business organizations, was formed to assist with the Master Plan Update effort, along with the ongoing Long-Range Planning Council (LRPC), comprised of Tucson Airport Authority members.

## **GOALS, OBJECTIVES, AND PLANNING GUIDELINES**

On the basis of a review of previous master plans for the Airport and discussions with LRPC and TAC members, the Tucson Airport Authority Board of Directors, Airport tenants, and Authority staff, the overall goal, objectives, and a set of planning guidelines for the Master Plan Update were established.

### **OVERALL GOAL**

In recognition of the role of the Airport in supporting business and tourism in Tucson, the overall goal of the Master Plan Update is to provide for the continued development of the Airport that is "human" in scale, recognizing that air travel passengers—including those traveling on air carrier, charter, and business aircraft—are the primary *customers*. Other Airport customers include air cargo service providers, the Arizona Air National Guard (AANG), and general aviation operators. Facilities should be convenient and easy to use, comfortable, affordable, and aesthetically pleasing. The Airport's southwestern location and the regional art, architecture, and landscape should be clearly reflected in the continuing development of the passenger terminal complex and other major structures on the Airport site.

### **OBJECTIVES**

The following seven objectives support the overall goal of the Master Plan Update:

1. Ensure that the Airport can continue to accommodate the aviation demand in the region by identifying short- and long-term facility requirements consistent with the safe, efficient, and financially and environmentally sound operation and development of the Airport through its ultimate configuration.
2. Protect and enhance the investment of public funds.

3. Create a plan that provides opportunities for aviation- and nonaviation-related development to maximize revenues to the Authority for use in financing Airport improvements.
4. Ensure that the recommendations in the Update are sufficiently flexible to allow for change and to accommodate new technologies, such as those affecting navigational aids, aircraft designs and capabilities, and ground transportation.
5. Ensure passenger comfort and convenience by maintaining level-of-service criteria including, but not limited to, such factors as walking distances within the terminal, amount and variety of concessions provided, and amount of passenger holdroom space at each airline gate.
6. Achieve and maintain maximum compatibility between the Airport and its environs; in particular, ensure that the areas of highest aircraft noise exposure are within the Airport boundary.
7. Properly determine priorities for Airport projects (including projects and programs mandated by environmental laws), project phasing for capital budget purposes, and allocations of financial resources to ensure that required facilities are in place when needed.

## **PLANNING GUIDELINES**

To facilitate achievement of the objectives, the following will be used to guide the Authority in developing recommendations for various elements of the Master Plan Update.

### ***Airport Role***

1. The primary role of Tucson International Airport will be to serve the air carrier needs of the region. This role is consistent with the Regional Airport System Plan (RASP) for Pima County prepared by the Pima Association of Governments.
2. Secondary roles of the Airport will be to: (a) accommodate the Arizona Air National Guard to the extent practicable, and (b) accommodate general aviation activity, in particular high-performance business aviation aircraft activity, to the extent consistent with the Airport's primary role as an air carrier airport. The Authority will continue to enhance Ryan Airfield's role as a general aviation reliever to Tucson International Airport. Ryan Airfield is also operated by the Authority.

### ***Aviation Activity Forecasts***

3. The need for future Airport development will be established on the basis of planning activity levels that are consistent with aviation demand forecasts rather than the year-based forecasts themselves.
4. The capability of the Airport site to accommodate the ultimate potential airfield, terminal, and other facilities, considering existing and known future technologies, should be planned for and protected beyond the typical 20-year master planning period.
5. Changes in airline service patterns and airfares, particularly as they may be affected by passenger traffic demand resulting from growth in regional business and tourism, will be considered in the planning process.
6. The potential increase in passenger service between Mexico and Tucson, especially to and from secondary but growing markets that could be served by either commuter or jet aircraft, will be considered in the planning process. This increase could have a substantial effect on the requirements for international facilities such as aircraft gates and U.S. customs, immigration, and agricultural inspection facilities.
7. The passage of NAFTA, given the proximity of Tucson to Mexico, and the potential for intermodal service (air, rail, and highway) could have a significant effect on air cargo volumes and will be considered in the planning process.

### ***Aviation Activity Forecasts***

8. The Airport site is the only location in the Airport service region (southern Arizona and northern Sonora, Mexico) capable of accommodating large increases in airfield capacity, including an additional runway with an instrument landing system. Consequently, the sites identified for up to three parallel runways (southwest and east of Runway 11L-29R) will continue to be reserved in the Master Plan Update to ensure that the ultimate long-term air carrier needs of the region can be met.
9. For planning purposes, it is assumed that Davis-Monthan Air Force Base will continue to operate in the foreseeable future and that airspace interactions and other considerations will influence the location and orientation of future airfield facilities at Tucson International Airport. Coordination with Air Force representatives will ensure that the effects of potential improvements at the Base are considered in the Master Plan Update.

The requirement for up to three additional parallel runways had been identified in the 1987 Master Plan. Analyses conducted as part of this Master Plan Update concluded that two additional parallel runways, both capable of accommodating air carrier aircraft, would be sufficient to satisfy demand for the planning period and beyond. (Although the land needed for a third parallel runway is still depicted on the land use plan, it has not been designated for airfield use. Prior to permitting development on land that had previously been reserved for the third additional parallel runway, the Authority should verify that the runway will not be needed.)

10. The sequencing of the construction of future parallel air carrier runways (either southwest or east of Runway 11L-29R) will be determined on the basis of defined criteria, including cost/benefit analyses. At a minimum, the cost/benefit analyses will include such factors as additional land acquisition required, relocation of acquired facilities, additional infrastructure and airfield facilities required (such as new taxiway systems), increases in taxiing distances and related airline costs, air quality emissions, and desirability/frequency of runway use by pilots relative to taxiing distances.
11. The ultimate length of existing Runway 11L-29R will be determined taking into consideration the potential air carrier aircraft types that would operate at the Airport, assumed nonstop markets (stage length), environmental impacts (aircraft noise), and financial feasibility.
12. The requirements for crosswind coverage (as currently provided by Runway 3-21) will be analyzed and the results incorporated in the recommended airfield plan.
13. Flexibility will be provided to accommodate technological advances and improvements in air navigation aids and the potential relocation of the Airport Traffic Control Tower consistent with Federal Aviation Administration (FAA) standards for optimum visibility of the entire airfield from the Tower.

### ***Passenger Terminal Complex***

14. As recommended in previous master plans for the Airport, the "ultimate" development of terminal facilities will be at a midfield site to provide efficient access to all runways associated with the ultimate airfield configuration. However, short- and medium-term requirements may be accommodated through the continued expansion of the existing terminal building, construction of a new terminal at a midfield location, or some combination of both. These alternatives will be fully evaluated before recommendations are made.

15. In determining the timing for expansion of terminal building facilities (such as ticketing, holdroom, gate, baggage claim, and curbside facilities), the changing characteristics of the airlines serving the Airport, including the potential increased frequency of the daily use of gates by some airlines, thereby serving more passengers with fewer gates; the introduction of ticketless travel; and the reduction of in-flight meal service, will be considered.
16. Increases in demand for international service, especially to and from Mexico, could have a major effect on the type of and need for aircraft parking positions and gates (ground level or jetways, depending on the mix of commuter and jet aircraft), the need to expand concourses in the existing main terminal building, or the need to expand the existing or construct a new international facility, and will be considered in the Update.

### ***Airport Access and Parking***

17. Primary access to the passenger terminal complex (either in its existing location or at a midfield location) will continue to be via South Tucson Boulevard, with roadway enhancements/extensions constructed in stages. In addition, provision will be made to accommodate alternative ground access routes, especially as the region continues to develop east, south, and southeast of the Airport. The potential for direct limited access connections to interstate highways will be considered in the Update.
18. Provision will be made to accommodate potential mass transit facilities.
19. Access to the northeast portion of the Airport (where existing air cargo facilities are located and future fixed base operator and other general aviation facilities may be developed) and to the west and southwest portions of the Airport (where industrial and commercial development could occur and intermodal facilities could be developed) will be maintained and enhanced.
20. Consideration will be given to providing adequate land and frontage for intermodal facilities (rail and highway) to maximize realization of opportunities for cargo service development provided by NAFTA.
21. Provision will be made for a variety of parking facilities and pricing differentials, including close-in short-term parking (either surface or garage) and long-term parking either within a reasonable walking distance to the terminal building or with terminal access provided via frequent shuttle service.

### ***Overall Land Use***

22. Following identification of the land required to accommodate the ultimate airfield, aviation-related land uses serving air carrier activity (passengers *and* cargo), the AANG, and high-performance general aviation aircraft activity will have the highest priority in land use planning for the remaining Airport site.
23. Consideration will be given to providing parcels for appropriate uses on the Airport site, such as a hotel, aviation education and conference facilities, uses that enhance economic development or could benefit from proximity to the Airport (e.g., cargo warehousing, freight forwarders), and other aviation-related commercial and industrial uses that would be compatible with Airport operations.

### ***Environmental Impacts***

24. The characteristics of environmental impacts associated with the Airport and its continuing development will be assessed. Recommendations, to the extent practicable, will be those that would minimize adverse environmental impacts. The primary environmental categories to be investigated will be aircraft noise exposure, air pollution emissions, water quality, and hazardous substances.

### ***Financial Resources***

25. Priorities for Airport projects and programs, phasing for capital budgeting purposes, and allocations of financial resources will be set forth to ensure that required improvements are in place when needed.
26. All potential sources of financing will be reviewed and assessed in preparing the Preliminary Financial Plan, including, but not limited to, the following: grants-in-aid from the FAA and the State of Arizona, general Airport revenue bonds, special purpose revenue bonds, internally generated cash, passenger facility charge revenue, and surcharges (such as charges to on- and off-Airport rental car companies, taxicab companies, and shuttle van service providers).